

Attorney Docket No. 9138-0023US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Hoppensteadt et al. :

Serial No.: 09/771,019 : Examiner: Hirl, Joseph P.

Filed: January 26, 2001 : Group Art Unit: 2129

TITLE: **PHASE-LOCKED LOOP OSCILLATORY NEUROCOMPUTER**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF FRANK C. HOPPENSTEADT**

I, Frank C. Hoppensteadt, declare:

1. I am, with Dr. Eugene Izhikevich, co-inventor and co-applicant in the patent application identified above ("the application").
2. I have a Ph.D. in Mathematics from the University of Wisconsin.
3. At the time of filing the application I was Professor of Electrical Engineering, Professor of Mathematics and Director of Systems Science and Engineering Research at Arizona State University.
4. Presently, I hold the position of Professor of Mathematics and Counselor to the Provost at New York University.
5. I have read the application.
6. The Detailed Description of the invention contained at pages 3 through 11 of the application and illustrated in the drawings describe the best mode known to me of carrying out my and Dr. Izhikevich's invention to which the application relates as of the January 28, 2000 filing date to which I understand the application is entitled.

Attorney Docket No. 9138-0023US

7. Concerning the coupling of the outputs of the weighting network 21 to the phase-locked loop circuits 25, this can be done by means other than the band pass filters 35. Directly electrically connecting (the equivalent of an all-pass band pass filter), inductive coupling and resistive coupling are examples of means by which the outputs of the weighting networks 21 can be coupled to the phase-locked loop circuits 25 and still achieve operation of the invention as described in the application.

8. I further declare that all statements made herein of my own knowledge are true to the best of my belief and that all statements made on information and belief are believed to be true, and make this declaration under penalty of perjury.

Further deponent sayeth not.

Respectfully submitted,

FRANK C. HOPPENSTEADT

*Sworn to before me on*

Date: February 22, 2007

*Frank Hoppensteadt*

Rivka Shifra Shmansky  
Notary Public

RIVKA SHIFRA SHAMANSKY  
Notary Public, State of New York  
No. 01SH46036468  
Qualified in Queens County  
Commission Expires Jan. 24, 2010